

AMENDMENTS TO THE CLAIMS

The listing of claims below replaces all prior versions, and listings, of claims:

- 1 1. (Original) A heat sink assembly comprising:
2 a heat conduit; and
3 a block formed of a thermally conductive material having a first thermal
4 conductivity,
5 the heat conduit extending through a substantial portion of the block,
6 the heat conduit having a second thermal conductivity greater than the first
7 thermal conductivity.
- 1 2. (Original) The heat sink assembly of claim 1, wherein the first thermal
2 conductivity is greater than or equal to about 10.
- 1 3. (Original) The heat sink assembly of claim 2, wherein the first thermal
2 conductivity is less than or equal to about 100.
- 1 4. (Original) The heat sink assembly of claim 1, wherein the heat conduit is adapted
2 to transfer heat from a heat source along its length.
- 1 5. (Original) The heat sink assembly of claim 4, wherein the block is adapted to
2 transfer heat away from the heat conduit.
- 1 6. (Original) The heat sink assembly of claim 1, wherein the block has a first
2 segment on one side of a portion of the heat conduit, and the block has a second segment
3 on another side of the portion of the heat conduit,
4 the first segment having a first heat conduction distance to dissipate heat from the
5 heat conduit, and the second segment having a second heat conduction distance to
6 dissipate heat from the heat conduit.

1 7. (Original) The heat sink assembly of claim 6, wherein the first and second heat
2 conduction distances are substantially the same.

1 8. (Original) The heat sink assembly of claim 7, further comprising a second heat
2 conduit extending through another substantial portion of the block.

1 9. (Original) The heat sink assembly of claim 8, wherein the block has a third
2 segment on one side of a portion of the second heat conduit, and the block has a fourth
3 segment on another side of the portion of the second heat conduit,
4 the third segment having a third heat conduction distance to dissipate heat from
5 the second heat conduit, and the fourth segment having a fourth heat conduction distance
6 to dissipate heat from the second heat conduit.

1 10. (Original) The heat sink assembly of claim 9, wherein each of the first, second,
2 third, and fourth segments have airflow channels extending therethrough.

1 11. (Original) The heat sink assembly of claim 5, wherein the block has airflow
2 channels to provide surfaces on the block exposed to airflow.

1 12. (Original) The heat sink assembly of claim 1, wherein the thermally conductive
2 material comprises a non-metallic material.

1 13. (Original) The heat sink assembly of claim 1, wherein the thermally conductive
2 material comprises a thermally conductive polymer.

1 14. (Original) The heat sink assembly of claim 13, wherein the heat conduit
2 comprises a heat pipe.

1 15. (Original) The heat sink assembly of claim 13, wherein the heat conduit
2 comprises a tubular structure having a bore through which fluid is adapted to flow to
3 transfer heat.

1 16. (Original) The heat sink assembly of claim 1, further comprising plural other heat
2 conduits extending through respective substantial portions of the block.

1 17. (Original) The heat sink assembly of claim 1, wherein the heat conduit has a first
2 portion and a second portion angled with respect to the first portion, the first portion
3 adapted to contact a surface of a heat source.

1 18. (Original) The heat sink assembly of claim 17, wherein the block has a vertical
2 axis and a horizontal plane formed by two axes, the first portion of the heat conduit
3 extending generally along the horizontal plane, and the second portion of the heat conduit
4 extending generally along the vertical axis.

1 19. (Original) The heat sink assembly of claim 18, wherein the second portion has a
2 shape selected from the group consisting of: generally straight, generally S-shaped, and
3 shaped as a loop.

1 20. (Original) The heat sink assembly of claim 18, further comprising a second heat
2 conduit extending through another portion of the block, the second heat conduit having a
3 first portion extending generally along the horizontal plane and a second portion
4 extending generally along the vertical axis.

1 21. (Original) The heat sink assembly of claim 18, wherein the block has a first side
2 edge, the second portion of the heat conduit a first distance from the first side edge, the
3 first distance being a heat conduction distance of a first segment of the block, the first
4 segment of the block to dissipate heat from the heat conduit.

1 22. (Original) The heat sink assembly of 21, further comprising a second heat conduit
2 extending through another substantial portion of the block, the second heat conduit
3 having a first portion extending generally along the horizontal axis and a second portion
4 extending generally along the vertical axis, the block having a second side edge, the

5 second portion of the second heat conduit a second distance from the second edge, the
6 second distance being a second heat conduction distance of a second segment of the
7 block, the second segment to dissipate heat from the second heat conduit.

1 23. (Original) The heat sink assembly of claim 22, wherein the block has airflow
2 channels through at least the first and second segments.

1 24. (Original) A method of dissipating heat from a component, comprising:
2 providing a block formed of a thermally conductive material having a first
3 thermal conductivity; and
4 extending an elongated heat conduit through a substantial portion of the block, the
5 elongated heat conduit having a second thermal conductivity greater than the first thermal
6 conductivity.

1 25. (Original) The method of claim 24, wherein extending the elongated heat conduit
2 comprises extending a heat pipe.

1 26. (Original) The method of claim 24, wherein providing the block formed of the
2 thermally conductive material comprises providing the block formed of a thermally
3 conductive polymer.

1 27. (Original) The method of claim 24, further comprising extending another
2 elongated heat conduit through another substantial portion of the block.

1 28. (Original) The method of claim 24, further comprising:
2 providing a first segment of the block on one side of a portion of the elongated
3 heat conduit to dissipate heat from the elongated heat conduit; and
4 providing a second segment of the block on another side of the portion of the
5 elongated heat conduit to dissipate heat from the elongated heat conduit.

1 29. (Original) The method of claim 28, further comprising providing airflow channels
2 through the first and second segments.

1 30. (Original) The method of claim 29, wherein the block has a horizontal axis and a
2 vertical axis, the portion of the elongated heat conduit extending generally along the
3 vertical axis.

1 31. (Original) A system comprising:
2 a component; and
3 a heat sink thermally contacted to the component,
4 the heat sink having a block formed of a thermally conductive material, the heat
5 sink having a first segment and a second segment,
6 the heat sink further having a heat conduit extending through the block between
7 the first and second segments, the first segment to transfer heat away from the heat
8 conduit in a first direction, and the second segment to transfer heat away from the heat
9 conduit in a second direction.

1 32. (Original) The system of claim 31, wherein the heat conduit comprises a heat
2 pipe.

1 33. (Original) The system of claim 32, wherein the thermally conductive material
2 comprises thermally conductive polymer.

1 34. (Original) The system of claim 31, wherein the thermally conductive material has
2 a first thermal conductivity, and the heat conduit has a second thermal conductivity
3 greater than the first thermal conductivity.

1 35. (Original) The system of claim 34, wherein the first thermal conductivity is in a
2 range between 10 and 100.

1 36. (Original) The system of claim 31, wherein the heat sink further comprises
2 airflow channels extending through the first and second segments.

1 37. (Original) The system of claim 31, wherein the block further has a third segment
2 and a fourth segment, the heat sink further having a second heat conduit extending
3 between the third and fourth segments.

1 38. (Original) The system of claim 37, wherein the thermally conductive material
2 comprises thermally conductive polymer.

1 39. (Original) The system of claim 37, wherein the heat conduits comprise heat pipes.

1 40. (New) A heat sink assembly comprising:
2 a heat conduit; and
3 a block formed of a thermally conductive material having a first thermal
4 conductivity,
5 the heat conduit extending through a substantial portion of the block,
6 the heat conduit having a second thermal conductivity greater than the first
7 thermal conductivity,
8 the block having airflow channels adjacent the heat conduit to provide surfaces in
9 the block exposed to airflow.

1 41. (New) The method of claim 24, wherein the block transfers heat from the
2 elongated heat conduit, the method further comprising forming airflow channels in the
3 block adjacent the elongated heat conduit to expose surfaces of the block to air flow.

1 42. (New) The method of claim 41, wherein the elongated heat conduit has a first
2 portion angled with respect to a second portion, the first portion extended into the block,
3 the method further comprising thermally contacting an outer surface of the second
4 portion to a heat-producing device.

- 1 43. (New) The system of claim 31, wherein the heat conduit has a first portion
- 2 extending through the block, and the heat conduit has a second portion angled with
- 3 respect to the first portion, an outer surface along a length of the second portion being
- 4 thermally contacted to the component.